ASPHALT CONTENT OF HOT MIX ASPHALT BY THE IGNITION METHOD ITM 586

APPARATUS

- [ ] Balance, sufficient capacity for sample, readable to 0.1 g or better, in accordance with AASHTO M 231
- [ ] Ignition Oven
  - [ ] Forced air ignition furnace capable of maintaining a temperature of 1100 ± 9°F
  - [ ] Equipped with an internal balance, thermally isolated from the oven chamber, able to measure up to 6000 g. Documentation of annual calibration in accordance with ITM 910 available
  - [ ] Lift test performed in accordance with the ignition oven operations manual and recorded weekly
  - [ ] Chamber dimensions adequate to accommodate sample size of 3500 g
  - [ ] Door locks until completion of test
  - [ ] Method for minimizing furnace emissions provided
  - [ ] Oven vented into hood or to outside
  - [ ] Oven has fan capable of pulling air through furnace
  - [ ] Oven has automatic shut off that can be set at 0.01% of the sample weight
  - [ ] Oven has an alarm to indicate when test is complete
  - [ ] Printed ticket includes initial mass, specimen mass loss, temperature compensation, correction factor, corrected asphalt binder content (%), test time and test temperature
- [ ] Lab oven, capable of maintaining a temperature of 250 ± 9°F
- [ ] Sample baskets made of heat resistant screen mesh with openings of approximately 0.1 in. Multiple baskets may be nested one on top of the other.
- [ ] Heat resistant surface capable of withstanding 1200°F
- [ ] Catch pan of sufficient size to hold the sample basket(s)
- [ ] Protective cage made of bars or wire, used to cover hot sample baskets and prevent accidental contact
- [ ] Safety glasses or face shield
- [ ] High temperature gloves
- [ ] Long sleeve jacket

PROCEDURE

- [ ] Lab oven heated to 221 ± 9°F
- [ ] Stability threshold of ignition oven set at 0.01 percent weight loss for three minutes. Stability threshold value recorded.
- [ ] Lift on ignition scale reads between -3 and -8 grams. Reading documented
- [ ] Ignition oven preheated to test temperature and temperature recorded

[ ] Mix calibration factor in percent at the specified temperature is recorded
[ ] Sample dried to constant weight in accordance with ITM 572
[ ] Sample meets the following requirements:

Mixture Designation	Weight of Sample, g
4.75 mm	1200 - 1700
9.5 mm	1200 - 1700
12.5 mm	1500 - 2000
19.0 mm, OG 19.0 mm	2000 - 2500
25.0 mm, OG 25.0 mm	3000 - 3500

[ ] If sample size exceeds required weight, sample is reduced in accordance with ITM 587
[ ] Weight of ignition oven basket assembly measured using an external balance and recorded
[ ] Bottom basket placed inside catch pan
[ ] An equal portion of sample placed in each of the ignition oven baskets as they are stacked. Sample spread evenly over bottom of each basket and there is no contact between the edge of the sample and the side of the basket
[ ] Lid and guards are attached to oven basket
[ ] Weight of ignition oven basket assembly with sample is measured using an external balance and recorded
[ ] Weight of sample determined by:

$$\text{Weight(g)} = (\text{weight of basket assembly(g)} + \text{sample(g)}) - \text{weight of basket assembly(g)}$$

[ ] Calibration factor and weight of sample(g) entered into ignition oven computer
[ ] Ignition oven basket assembly and sample placed in ignition oven and chamber door closed
[ ] Weight of sample baskets displayed on oven scale within ± 5g of weight on external balance (Differences > 5g or failure of oven scale to stabilize may indicate that sample basket(s) are contacting the oven wall)

[ ] Sample burned in ignition oven until oven shuts off automatically
[ ] Basket assembly removed from the oven, placed on firm heat resistant surface, covered with protective cage, and allowed to cool to room temperature
[ ] Oven ticket removed from ignition oven and calibrated asphalt content recorded to nearest 0.01%

NA - Not Applicable
X - Requires Corrective Action
√ - Satisfactory

_____
Acceptance Technician

_____ _____
INDOT Date

Comments: _____

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